

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problems Mailbox.**

⑫

**EUROPEAN PATENT APPLICATION**

⑪ Application number: 84304771.3

⑪ Int. Cl.<sup>4</sup>: A 61 K 7/48

⑫ Date of filing: 12.07.84

⑬ Priority: 13.07.83 GB 8318912

⑭ Date of publication of application:  
22.01.85 Bulletin 85/5

⑮ Designated Contracting States:  
AT BE CH DE FR GB IT LI LU NL SE

⑰ Applicant: Horrobin, David Frederick  
P.O. Box 818  
Kentville Nova Scotia, B4N 4H8(CA)

⑱ Inventor: Horrobin, David Frederick  
P.O. Box 818  
Kentville Nova Scotia, B4N 4H8(CA)

⑲ Representative: Woodman, Derek et al.  
Frank S. Dahn & Co. European Patent Attorneys Imperial  
House 18-19 Kingsway  
London WC2B 6UJ(GB)

⑳ Methods and compositions for the cosmetic treatment of the skin.

㉑ Skin regions associated with excess sebum production, eg oily regions, seborrheic dermatitis and dandruff may be treated by the topical application to such regions of a cosmetic composition containing an effective amount of a topically acceptable lithium salt.

BU 145-186.

Methods and compositions for the cosmetic  
treatment of the skin

This invention relates to methods for the cosmetic treatment of skin conditions associated with excess sebum production as well as to cosmetic compositions for use in such treatment.

- 5       US Patent No. 3 639 625 discloses topical compositions containing lithium succinate for the treatment of various skin diseases. In particular, it is stated that the compositions may be useful in the treatment of exfoliative dermatitis, vaginal pruritis, heat rash such as diaper rash, contact dermatitis, poison ivy, acne vulgaris, dry skin
- 10       conditions, burns and abrasions.

- I have now found that a variety of topically acceptable lithium salts will reduce the oiliness
- 15       of the skin surface, apparently due to a reduction in sebum formation. This discovery is particularly surprising in view of the reference in US Patent No. 3 639 625 to the treatment of dry skin conditions. I have also found that seborrheic dermatitis responds
- 20       favourably to the application of lithium salts. Moreover, the application of lithium salts to the scalp has been found to give an anti-dandruff effect, dandruff being a condition commonly associated with seborrheic dermatitis.

- 25       Thus, in one aspect the invention provides a cosmetic composition for topical application to the skin characterized in that it contains a topically acceptable lithium salt.

- The compositions of the invention may be
- 30       applied topically to regions of the skin associated with excess sebum production, eg oily skin, seborrheic

dermatitis and dandruff. Skin regions susceptible to seborrheic dermatitis may also have applied thereto the compositions according to the invention even when sebum secretion is not excessive.

5        Thus in a further aspect the invention provides a method of cosmetic treatment of human skin which comprises topically applying to oily regions thereof or to regions susceptible to dandruff a cosmetic composition containing a topically acceptable lithium salt.

10        The cosmetic compositions of the invention suitably comprise a cosmetic base and it is particularly preferred that the base comprises a cosmetic cleansing composition such as a soap, shampoo or cleansing lotion. Thus, the compositions may take the form  
15 of solid or liquid soaps or shampoos (including hair shampoos) containing the lithium salt and one or more natural or synthetic surfactants optionally together with one or more conventional soap or shampoo additives such as perfumes, colouring agents  
20 and the like.

Other lithium-containing compositions may also be used in the method according to the invention and examples of such compositions include lipsticks, ointments, creams, solutions, lotions, emulsions,  
25 suspensions and powders.

Any topically acceptable lithium salt may be used according to the invention since it is believed that the nature of the anion in the salt is not important. Examples of such salts include  
30 lithium chloride, succinate, citrate, acetylsalicylate and orotate.

The compositions for use according to the invention conveniently contain from 0.001 to 30%, and preferably from 1 to 10%, by weight of lithium ions.

5 In a still further aspect, the invention provides a method of producing a cosmetic composition according to the invention which method comprises admixing a topically acceptable lithium salt together with a cosmetic base.

10 In a yet further aspect, the invention provides the use of a topically acceptable lithium salt for the treatment of oily skin or skin subject to dandruff.

The following Examples serve to illustrate compositions which may be used in the method according to the invention (all percentages are by weight):-

Example 1 - Ointment

20

Wool alcohols ointment base (BF)	92%
Lithium succinate	8%

Example 2 - Cream

25

Aqueous cream base	96%
Lithium citrate	4%

Example 3 - Cosmetic Night Cream

30

Cosmetic night cream base	98%
Lithium chloride	2%

Example 4 - Hair Shampoo

	Shampoo base	95%
5	Lithium succinate	5%

Example 5 - Soap

	Soap base	97%
10	Lithium orotate	3%

Example 6 - Lipstick

	Lipstick base	90%
15	Lithium succinate	10%

**CLAIMS:**

1. A cosmetic composition for topical application to the skin characterized in that it contains a topically acceptable lithium salt.
2. A composition as claimed in claim 1 in the form  
5 of a cosmetic cleansing composition.
3. A composition as claimed in claim 2 in the form of a soap, shampoo or cleansing lotion.
- 10 4. A composition as claimed in claim 1 in the form of a lipstick, cream or ointment.
5. A composition as claimed in any one of claims 1 to 4 containing from 0.001 to 30% by weight of  
15 lithium ions.
6. A composition as claimed in any one of claims 1 to 5 wherein said salt is selected from lithium chloride, lithium citrate, lithium acetylsalicylate,  
20 lithium orotate and lithium succinate
7. A method of cosmetic treatment of human skin which comprises topically applying to oily regions thereof or to regions susceptible to dandruff a cosmetic  
25 composition containing a topically acceptable lithium salt.
8. A method as claimed in claim 7 wherein said composition is a composition as claimed in any one of claims  
30 1 to 6.

9. The use of a topically acceptable lithium salt for the treatment of oily skin or skin subject to dandruff.

10. The use as claimed in claim 9 wherein said  
5 salt is contained in a composition as claimed in any one of claims 1 to 6.

11. A method of producing a cosmetic composition as claimed in claim 1 which method comprises admixing  
10 a topically acceptable lithium salt together with a cosmetic base.





European Patent  
Office

# EUROPEAN SEARCH REPORT

0182128  
Application Number

EP 4 30 4771

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 7)
X	CA-A- 849 491 (SEERWIN) * Claims 1,5-13; example 5; page 2, lines 9-15 *	1-11	A 61 K 7/48
X	EP-A-O 076 444 (HENKEL) * Claims *	1-10	
X	FR-A-2 210 380 (LANCANT) * Claim 1; page 2, lines 1-4 *	1-11	
X	US-A-1 670 449 (T. HASHIMOTO) * Claim 1; page 1, lines 16-61 *	1-11	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 7)
			A 61 K 7/00
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12-10-1984	Examiner WILLEKENS G.E.J.
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background P : non-written disclosure I : intermediate document</p> <p>Y : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date O : document cited in the application L : document cited for other reasons S : member of the same patent family, corresponding document</p>			